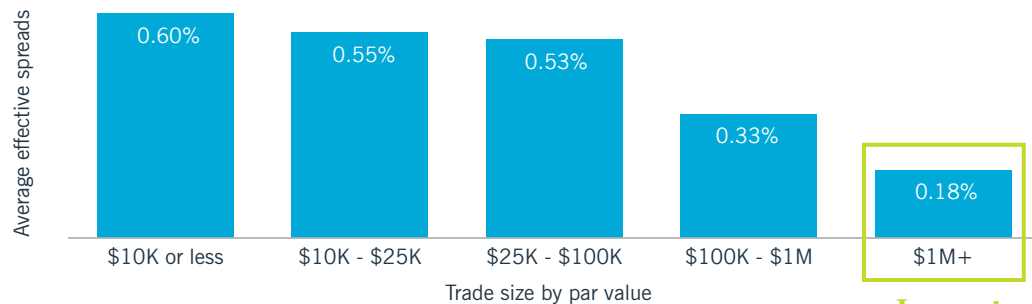


Individual investors are at a pricing disadvantage

In a low yield environment, pricing matters

Average effective spreads for municipal securities trades (01 Jan 2022 — 31 Mar 2023)



Lowest trading costs:
large institutional investors

The U.S. municipal securities market is an institutionally dominated and negotiated market characterized by inefficient pricing. There is no central location, like a stock exchange, where orders can be placed for individual investors to trade municipal bonds. This can make it difficult for these investors to obtain the best prices. In general, the larger the trading block, the lower the trading costs.

Spreads widened considerably during the pandemic, shrank to below pre-pandemic levels, then widened again since the beginning of 2022. Bond price declines since mid-2021 might ultimately explain the spread widening due to three factors. First, dealers tend to charge fixed amounts for retail trades. When a bond's price falls, a fixed charge represents a higher percentage of the price and thus a wider spread. Second, bonds priced below par could be less liquid because the appreciation of the market discount is taxed as ordinary income if the size of the discount exceeds certain parameters, and less liquid bonds tend to have wider spreads. Third, lower returns associated with low interest rate environments may constrain what dealers could charge, as investors are more sensitive to the impact of transaction costs.

Data source: Municipal Securities Rulemaking Board (MSRB) with data obtained from MSRB's RTRS, 01 Jan 2022 – 31 Mar 2023. Most recent data available. Effective spreads are computed daily for each bond as the difference between the volume-weighted average dealer-to-customer buy and sell price, and then averaged across bonds using equal weighting. Therefore, for each trading day, each security must have at least one customer purchase and one customer sell to be eligible for the analysis. In addition, variable-rate municipal securities were excluded in this analysis, as they are typically traded by sophisticated institutional investors with no markup. For more information on the methodology, please visit msrb.org. Copyright © MSRB 2023. All Rights Reserved. The data are provided without representations or warranties and on an "as is" basis. The MSRB hereby disclaims all representations and warranties (express or implied), including, but not limited to, warranties of merchantability, non-infringement and fitness for a particular purpose. Neither the MSRB nor any supplier of data to the MSRB shall in any way be liable to any recipient or user of the data, regardless of the cause or duration, including, but not limited to, any inaccuracies, errors, omissions or other defects in the data or for any damages resulting therefrom. The MSRB has no obligation to update, modify or amend data herein or to provide notice to any person if any is inaccurate or incomplete. This data were prepared for general informational purposes only, and it is not intended to provide, and does not constitute, investment, tax, business, legal or other advice. Provision of the data by the MSRB to a firm, organization or other entity ("Recipient") does not constitute and should not be interpreted as an endorsement of Recipient or Recipient's product or services. The MSRB is not affiliated with, nor does it sponsor, Recipient. The MSRB does not review, approve or have any responsibility for use of the data by Recipient, including, but not limited to, in research or other material or content prepared by or on behalf of Recipient.

Data is based on past performance, which is no guarantee of future results. Other methods may produce different results and the results for the individual portfolios and for different periods may vary. Institutional trade execution applies primarily to municipal bond trading as part of ongoing account management and generally does not include sales of legacy securities contributed to new or existing accounts or in connection with termination and liquidation instructions. See next page for more information.

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Active management can add value

Nuveen believes five key differentiators are important to creating portfolio growth.

- 1 CREDIT RESEARCH**
The experienced research team evaluates municipal bonds and sectors, seeking to find value in bonds that the general public may have overlooked.
- 2 INSTITUTIONAL ACCESS**
Nuveen navigates the inefficient municipal bond market through established relationships with more than 100 national and regional dealers.
- 3 INSTITUTIONAL TRADE EXECUTION**
A large presence in the market provides greater access to inventory to find bonds in appropriate sizes and at institutional prices.
- 4 TAX-AWARE INVESTING**
The ability to trade at institutional prices allows the team to efficiently capture tax losses and use them to offset gains.
- 5 ACTIVE PORTFOLIO OVERSIGHT**
By actively trading bonds, the team seeks to sell appreciated bonds, capture gains and purchase bonds that have the potential to enhance overall portfolio returns.



A rich heritage spanning 125 years remains focused on relative value, principal growth and tax-aware investing.



As one of the industry's largest credit research teams, 24 analysts averaging 19 years experience are dedicated to municipal investing.



Market power and institutional pricing provide an advantage when evaluating and purchasing bonds.

Leading the way in municipal bonds Since 1898, Nuveen has been financing essential municipal bond projects and building lasting value for investors. This municipal bond heritage is reflected in the way portfolios are managed today.

For more information, visit us at nuveen.com

1 Nuveen traces its history to 1898 when the company began underwriting municipal bonds, and TIAA was founded in 1918.

2 As of 30 Jun 2024. Nuveen assets under management (AUM) is inclusive of underlying investment specialists.

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All information has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. There is no representation or warranty as to the current accuracy, reliability or completeness of, nor liability for, decisions based on such information and it should not be relied on as such. For term definitions and index descriptions, please access the glossary on nuveen.com. **Please note, it is not possible to invest directly in an index.**

Important information on risk

Investing involves risk; principal loss is possible. Investing in municipal bonds involves risks such as interest rate risk, credit risk and market risk. The value of the portfolio will fluctuate based on the value of

the underlying securities. There are special risks associated with investments in high yield bonds, hedging activities and the potential use of leverage. Portfolios that include lower rated municipal bonds, commonly referred to as "high yield" or "junk" bonds, which are considered to be speculative, the credit and investment risk is heightened for the portfolio. Bond insurance guarantees only the payment of principal and interest on the bond when due, and not the value of the bonds themselves, which will fluctuate with the bond market and the financial success of the issuer and the insurer. No representation is made as to an insurer's ability to meet their commitments. This information should not replace an investor's consultation with a financial professional regarding their tax situation. Nuveen is not a tax advisor. Investors should contact a tax advisor regarding the appropriateness of tax-exempt investments in their portfolio. If sold prior to maturity, municipal securities are subject to gain/losses based on the level of interest rates, market conditions and the credit quality of the issuer. Income may be subject to the alternative minimum tax (AMT) and/or state and local taxes, based on the state of residence. Income from municipal bonds held by a portfolio could be declared taxable because of unfavorable changes in tax laws, adverse interpretations by the Internal Revenue Service or state tax authorities, or noncompliant conduct of a bond issuer. It is important to review your investment objectives, risk tolerance and liquidity needs before choosing an investment style or manager.

Institutional trade execution applies primarily to municipal bond trading as part of ongoing account management and generally does not include sales of legacy securities contributed to new or existing accounts or in connection with termination and liquidation instructions. Nuveen seeks to expeditiously and efficiently effect sales of legacy securities contributed to new or existing accounts or in connection with termination and liquidation instructions, generally by directing the execution of sale to the relevant broker-dealer/custodian designated by the client's managed account program, subject to program limitations. Primarily due to the time constraints and lot sizes applicable to these transactions, and because the full range of trading techniques is generally not available (including aggregation), the prices received in these transactions may be less favorable than the prices that could be attained for sales of securities selected as part of ongoing management. Clients always reserve the right to fund accounts with cash as opposed to legacy securities and to keep any securities in their accounts upon termination of services.

Nuveen, LLC provides investment solutions through its investment specialists.

This information does not constitute investment research as defined under MiFID.

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